1. In the below elements which of them are values or an expression? eg:- values can be integer or string and expressions will be mathematical operators.

\*==**Expression**

'hello'==**values**

-87.8===**values**

- ==**expression**

/ ==**expression**

* == **expression**

6 = values

2. What is the difference between string and variable?

**Ans= Variables are used to store values. And variables have data type. Examples i= 100, j= i, k= [1,2,3], str1= “hello”, name= 'Any Name'. i, j, k, str1, name are all variables. Strings is a data type. str1 and name are variables of data type string.**

3. Describe three different data types.

**Ans = 1>. int data type: We can use int data type to represent whole numbers (integral values) Eg: a=10 type(a) #int Note: In Python2 we have long data type to represent very large integral values. But in Python3 there is no long type explicitly and we can represent long values also by using int type only. We can represent int values in the following ways 1. Decimal form 2. Binary form 3. Octal form 4. Hexa decimal form**

**2= float data type: We can use float data type to represent floating point values (decimal values) Eg: f=1.234 type(f) float We can also represent floating point values by using exponential form (scientific notation) Eg: f=1.2e3 print(f) 1200.0 instead of 'e' we can use 'E' The main advantage of exponential form is we can represent big values in less memory. \*\*\*Note: We can represent int values in decimal, binary, octal and hexa decimal forms. But we can represent float values only by using decimal form.**

**3= 4.bool data type: We can use this data type to represent boolean values. The only allowed values for this data type are: True and False Internally Python represents True as 1 and False as 0 b=True type(b) =>bool Eg: a=10 b=20 c=aTrue True+True==>2 True-False==>1**

4. What is an expression made up of? What do all expressions do?

**Ans=An expression is a combination of operators and operands that is interpreted to produce some other value.**

**Expressions are representations of value. They are different from statement in the fact that statements do something while expressions are representation of value. For example any string is also an expressions since it represents the value of the string as well.**

5. This assignment statements, like spam = 10. What is the difference between an expression and a statement?

**Ans= An Expression always evaluates to a value. And, A statement does something, like creating a variable or displaying a value, it only does whatever the statement says**.

6. After running the following code, what does the variable bacon contain?

bacon = 22

bacon + 1

ans =**bacon =22**

7. What should the values of the following two terms be?

'spam' + 'spamspam'= spamspamspam

'spam' \* 3 = ***SyntaxError:*** *cannot assign to operator*

8. Why is eggs a valid variable name while 100 is invalid?

Ans = **because variable name cannot begin with numbers**

9. What three functions can be used to get the integer, floating-point number, or string version of a value?

**Ans=Int() , float(),str()**

10. Why does this expression cause an error? How can you fix it?

'I have eaten ' + 99 + ' burritos.'

Ans **= 'I have eaten ' + ‘99 ’+ ' burritos.'**